DOCUMENT RESUME

ED 331 493 IR 015 009

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TITLE Telecommunications: Working To Enhance Global Understanding and Peace Education.
PUB DATE Apr 91
NOTE 14p.; Paper presented at the Annual Conference of the American Educational Research Association (Chicago, IL, April 3-7, 1991).
PUB TYPE Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Computer Networks; *Cultural Differences; Distance Education; Elementary Secondary Education; *Global Approach; Information Networks; International Cooperation; Microcomputers; Peace; *Telecommunications

ABSTRACT

This paper describes educational activities that make use of microcomputers and information networks to link elementary and secondary students electronically using telecommunications, i.e., communication across distances using personal computers, modems, telephone lines, and computer networks. Efforts to promote global understanding and awareness are also described, with emphasis on teacher and educator cooperation in international distance education projects that focus on cultural similarities and differences as well as issues of importance such as world peace, the Gulf War, management of global water resources, and the plight of the homeless. It is noted that students from Australia, the Soviet Union, Denmark, Germany, the Netherlands, Israel, the United States, Norway, and many other countries have engaged in dialogues via telecommunication media, and that, in most countries, the primary obstacle to participating in an international project is funding. Other obstacles cited include technical difficulties, fear of misuse, lack of understanding, and government policies controlling information. It is concluded that, although current research on the effectiveness of the projects is scarce, global interaction can enhance understanding between cultures. (9 references) (DB)

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Telecommunications: Working to Enhance Global Understanding and Peace Education

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> Men hate each other because they fear each other. They fear each other because they don't know each other. They don't know each other because they can't communicate with each other. They can't communicate with each other because they are separated from each other. Martin Luther King

Introduction

The purpose of this paper is to describe activities that promote global understanding and awareness by linking students electronically using telecommunications. A growing number of educators are participating in projects by connecting their classes to share cultures, discover similarities, value differences, and recognize the fragile nature of the world in which we live. This paper will describe some of these international projects, identify obstacles currently inhibiting these connections, and summarize the research presently available. The paper ends with a request for further research in this area, especially for collaborative research between classroom teachers and educational researchers.

Telecommunications, defined in this paper as communication across distances using personal computers, modems, phone lines, and computer networks, has several unique characteristics which allow educators to accomplish goals which were previously only dreamed. The medium of computer communication combines some of the spontaneity of the spoken word with the thoughtful reflection and literacy of the written word. Telecommunications allow

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Paper presented at AERA, April 1991, Chicago.

classes to communicate rapidly over long distances for cooperative activities. Multiple classes are able to participate with ease, experts can be brought electronically into classes, and time zones become irrelevant.

Teachers are recognizing that remote classes are resources which can expand activities and opportunities. More importantly, global communication provides the possibility for students and teachers to become friends with others in an ongoing effort for peaceful existence. This technology offers new challenges for educational experiences, enhances personal and professional development, and diminishes the isolation which often occurs in learning and teaching.

Some Current Examples

In the last few years a small number of teachers have overcome technical and administrative roadblocks to go 'on-line' and connect their classes with others. At first the exchanges tended to be technology driven and resulted in short term, non-curricular activities. Pen pals were often arranged, but personal relationships and collaborative activities frequently did not result from these projects.

A few experiences gave a hint of the technology's potential. During the 1988 Australian Exposition youngsters around the world were asked to contribute verses to a World Peace Poem. Some contributions were made by visitors to the Expo site but many came from locations in many countries via telecommunications. Students and classes made contributions in a variety of languages, but the message was the same: young people around the world want to live together in peace!

One activity was designed to capitalize on growing interest in the Soviet Union. A class in the United States posted an electronic questionnaire to

determine common beliefs and information our students held about people and life in that country. Hundreds of students from all over the United States, Canada, and parts of Europe responded. As a culminating activity, the survey was shared via telecommunications with children in the Soviet Union and perceptions and misconceptions were discussed. The Soviet children had an opportunity to share some of their beliefs about the United States in return.

Curriculum Collaboration

There have been curricular activities in which students have had the chance to interact, interview, work collaboratively and become friends with others from geographically distant places. The European Schools Project has supported collaborative distance learning projects, termed teletrips, for three years. Teletrips are conceptually based on Pask's Conversation Theory, which situates learning in linguistic interactions between actors, exchanging and partly sharing personal concepts. During the 1990-91 academic year some thirty teletrips involving about forty secondary schools in six European countries were performed on a variety of subjects. These ranged from 'The Gulf War' to 'Environmental Issues of Power Production', using various foreign languages for tele-conversation, like German, Spanish, or English.

A typical example of a conversation topic is 'The Image of the Other'. Pupils in Denmark, Germany and the Netherlands introduce their contexts to each other in combination with airing opinions on the 'other' context. Pupil-statements like: "And there they come again with tulips, wooden shoes and mills", "They think you can't even walk in Amsterdam without being stabbed in the back", indicate a contribution to enhancing intercultural understanding.

The various cooperative arrangements, both computer mediated and in local group work, stimulate active social learning. In general pupils have more pleasure in learning, because of the project-like, multi-medium, interdisciplinary, intercultural and cooperative characteristics of teletrips. Traditional disciplinary boundaries are crossed more often, initiated by pupils. Also teachers indicate they consider teletrips to be a contribution to better education (Sligte, Electronic Communication, 1991).

Another curriculum based project began with a water survey. Students in 15 countries participated. Each class researched the answers to questions regarding source of water, cost of water as percent of monthly income, treatment of water, manner of collection and distribution, and disposal of water in their city. What began as a science and mathematics experiment ended with global discussions on similarities, differences, scarcity of natural resources, global economics and the relationship of water to the quality of life.

Sometimes the distance between classes is not measured geographically, but represents an historical and cultural separation. In Israel one school on a kibbutz and another in a Druze village were approximately 26 kilometers apart, but they might as well have been on different sides of the world. They traditionally had no contact with each other and the possibility of students in these classes ever getting to know each other or meeting was remote.

In an creative experiment two classes were linked using telecommunications. An Israeli network, Geshernet (in Hebrew the word Gesher means bridge) established the connection. The students began discussions about their communities, customs, and feelings. Students began to establish tentative relationships and gradually understand the similarities and differences of the world in which they live. Before long the groups wanted to physically meet each other and this was arranged. After the meeting the classes continued their

relationship using telecommunications and visits. Only a small step, perhaps, but one in a positive direction.

There have been a few projects that moved beyond this type of activity; they use telecommunications as the vehicle for encouraging children to work cooperatively to reach common goals and stress affective as well as cognitive outcomes. This integrated curriculum model allows students to construct knowledge about the world and realize that some problems can be solved only by working together.

One example took place between classes in Eugene, Oregon; Winnipeg, Manitoba; and the Virgin Islands. The project focused on the plight of the homeless in each city. For several months these three classes worked independently and collaboratively to become experts in their local situations, populations, possible remedies, and the broader context in which the problem occurs.

The students shared their knowledge, created simulations in which all participated, and brainstormed possible actions. One class began to visit a local homeless shelter and gathered clothing to donate to the residents. During the project the classes also exchanged information about their cultures, sent videos and culture packets to the others. In general the students thought of all the classes as fundamentally part of a larger whole.

A World Wide Dialogue for Children

In Norway, Ode de Presno began an activity designed to reach and connect children around the world. The objective of his KIDS-91 project was to get as many 10-to-15-year-old children as possible involved in a global dialogue. The sponsoring groups asked children to respond to the following questions:

1) Who am I?
2) What do I want to be when I grow up?
3) How do I want the world to be better when I grow up?
4) What can I do now to make this happen?

Each student sent his/her answers via telecommunications to a central location; the responses were compiled and resent to all the participants. The project also encouraged the children to include an illustration of their future vision, for example in a drawing, a video tape, or in some other manner. As a culminating event, the children were invited to "chat" with each other in a global electronic dialogue on May 12, 1991. Exhibitions of selected parts of this discussion will be sent back to the world for the children to see and enjoy.

Classroom teachers composed a list of activities to extend this global communication through writing, reading, discussions and student presentations. Overall, students and teachers have reported increased awareness and sensitivity to other cultures, perceptions, and world views outside their own communities.

Children Respond to the Gulf War

Charles Johnson, Southwest Texas University, had plans to teach a college level course on war and international relations during the Spring of 1991. He decided to add a component to encourage his university students to work with about 50 children from a local 6th grade in Central Texas. Dr. Johnson was able to get his local telephone company to donate two Macintoshes and high speed (9600 baud) lines to connect the class to the university VAX. He also was able to get his university to donate a "guest" account for the 6th grade class to use. His project, "Communication Project on Children's Feelings Toward War," had children

communicating on KIDCAFE [a forum for children's exchanges] or through direct electronic mail with other interested children anywhere in the world.

After introductions the children took up the topic of war, including their feelings and attitudes toward war in general, and then turned specifically to their feelings and attitudes about the Iraqi conflict. A local teacher volunteered her classes for this project and incorporated lessons about the different countries or states from which correspondence originated. The 6th grade children were also discussing war and specifically the Iraqi conflict in their class lessons. As Johnson saw it the war was the beginning of the dialogue but, "Our kids wanted to be able to discuss anything - war, environment, school, family, hobbies, etc". He explained further,

> We understand the dangers of opening such dialogues, especially since some of our 6th grade children have relatives deployed to the Persian Gulf area. Counselors will be involved from our side. It is hoped that if we can develop a dialogue with children in other countries, it may help all children involved better understand the situation and each other's feelings. Besides the Persian Gulf, some children may want to discuss their feelings about the Baltic States problem. And I'm sure, as the children get to know each other, any topic may be discussed, including hobbies, school, or families (Electronic Communication, January, 1991).

Obstacles

It should not be a surprise to learn that access to technological information and equipment is further dividing our world into 'haves' and 'have nots'. Cleveland said, "The people and the nations that don't learn to participate in an information-based society will be its peasants" (1986, p. 62). This is certainly true when we speak about the ability to connect with personal computers, modems, and telephone lines.

In the United States, where telephones are common, schools are faced with financial difficulties which inhibit global interactions. Many school districts have no money for books, much less for the money to begin acquiring and using this technology. Math, science and technology have been designated priorities for the nation, yet there is little to translate this priority into reality. Many states have telecommunications rules which require schools to pay a business rate, which is much higher than residence rates, for telephone lines. Several multinational companies are working to have this business rate waived for educational purposes, but have met with little success nationally. These companies, for example Northern Telecom, are also attempting to gain funding or tax incentives to lay fiber optics to schools.

Other efforts are underway to bring high speed data lines into the K-12 classrooms. National Science Foundation has sponsored NSFNET, a network for research and education, and is attempting to spread its use into more schools. During the last legislative session, Senator Albert Gore sponsored Senate Bill 1067, a High-Performance Computing Act which would have authorized creation of a National Research and Education Network. Gore's plan was to extend this network into all K-12 classrooms. Unfortunately the bill became entangled in the budget negotiations in the fall of 1990 and it was not funded, but plans exist to reintroduce it to the 1991-93 Congress.

In other countries schools which have the opportunity to connect to classes around the world tend to be well financed private schools. There is an enormous surcharge added to other connection costs so that schools in other countries can participate with schools in the United States, where most of the educational networks are located. Some organizations and networks are willing to help subsidize these classrooms in countries outside the United States in order to

establish the international interactions, but it has not been easy to make the necessary connections.

Financial considerations are not the only obstacles inhibiting the access to global communications, however. Many administrators in the United States hesitate to put telephone lines in classrooms due to control issues, lack of understanding about the purpose of the connections and fear of teachers' misusing them. Additionally, the technology is still developing and presents enough technical difficulty to discourage many from trying to make connections. Outside the U.S. many phone lines are not 'clean' and static interferes with transmission of data. In other countries open access to students around the world represents a threat to traditional control on news and information.

All of the obstacles are surmountable if educators work together to establish common goals and to work collaboratively to make the needs and benefits apparent to policymakers. Many administrators want research findings as to the benefits of telecommunications on student outcomes. Although administrators' questions may not be asked in a useful way, it is reasonable to determine the impact of the technology on students, parents, and teachers.

Research on Global Telecommunications

Global telecommunications is an emerging phenomenon. Currently it is estimated that only six percent of educators know about telecommunications at all and only a small number actually incorporate its use in their curriculum (U.S. Congress, 1988). The technology itself and price to access networks further limits the number of classes involved in these activities. As an evolving process, it would be useful to have ongoing and appropriate research and yet when one looks for it little is available.

In the computer field, hardware has changed and matured, software has become more sophisticated, and teachers have begun to integrate technology into the classroom, yet research has lagged far behind. Much of the research currently available was done years ago on mainframes or with poor software (Bracey, 1988). In an exhaustive review of this research, Becker concluded that all the research together does "not come close to providing prescriptive data for deciding whether and how to use computers as adjuncts for instruction in these subjects" (cited in Bracey, 1988, p. 30).

In telecommunications the available research has been even more scarce. Polin suggests that this scarcity is due to the fact that until recently "few telecommunications services were specifically aimed at educators, and those that were often lacked stability in operations and purpose" (1990, p. 7). A few teachers have written descriptions of global telecommunications activities in popular computing journals (The Computing Teacher, Electronic Learning, Telecommunications in Education NEWS, for example). Recent research has validated teachers' long held belief that students write more carefully, edit their work, and plan more extensively when they are communicating with an audience of peers (Anderson-Inman, 1990; Riel, 1990).

Currently a few studies exist which demonstrate the efficacy of telecommunications in graduate courses, either as the sole delivery method or in combination with face to face meetings. It appears that telecommunications does enhance the learning and interaction of classes and increases relationships between the professor and students and among the students (Hiltz, 1986; Schrum, 1990a). The field is still waiting for research on the impact of global connections within the K-12 population on students and teachers.

It would be useful for classroom teachers to participate in designing and conducting such research as their insights would tell us a great deal about the

uses of the technology within the content and process of learning and teaching. Teachers are already carefully observing and reflecting on the ways in which this technology is affecting their students' learning and understanding of the world. Teachers' perceptions on telecommunications within the classroom, what works and how the students respond would be an effective way to build a body of knowledge useful to themselves, to other teachers and to administrators (Schrum, 1990b).

Unfortunately, most teachers do not think what they do is real research or that anyone else would be interested in reading it. Collaboration between educational researchers and teachers using telecommunication for global connections would be a powerful way to further the knowledge in this area. To accomplish these worthwhile goals however, we need researchers and educators beginning a dialogue on the subject, appropriate funding of projects which give classes significant access to the technology and international connections, and the development of integrated global and peace education curricula.

Conclusion

Global interactions and peace education among students with widely different views and backgrounds can enhance understanding of the nature and fragility of the world. We now have a rapid and relatively accessible manner in which to accomplish this goal using a computer, modem, and data transmissions.

Teachers are now able to readily arrange for their students to interact with classes around the world, investigate remote sources of information, and facilitate the process of democratization as groups share information equally. Use of this technology has truly created McLuhan's global village. This paper has

reported telecommunication projects designed to encourage students to recognize the similarities among all citizens and to celebrate each cultures' unique aspects, including specific projects on the Gulf War, global water resources, homeless populations and other critical issues.

Many countries and large groups of students in the United States are kept from participating in these projects due to financial considerations, political priorities and technological difficulties. We cannot ignore the reality, however, that today's students will be making decisions for the world tomorrow. Now that the potential exists for these future leaders to learn about each other, to work collaboratively and to become more familiar with the world in which they live, we must not allow these obstacles to limit the possibilities.

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